

REMARKS

Claims 1-54 are pending in the present application. In the above amendments, claims 1, 3-5, 7, 13-15, 17, 35, 47, 48 and 54 have been amended, claims 40, 41, 45 and 46 have been canceled without prejudice, and new claims 55 and 56 have been added.

Claims 1-39, 42-44, and 47-54, as amended, remain in this application. Claims 55-56 have been added. Claims 40, 41, 45 and 46 have been cancelled. In view of the foregoing amendments and remarks that follow, Applicants respectfully request favorable consideration and timely indication of allowance.

The Patent Office has acknowledged that claims 15 and 35 are directed to patentable subject matter. The Patent Office has objected to these claims; however, as being dependent upon rejected base claims, indicating that allowance would be forthcoming if these claims were rewritten in independent form. In order to expedite the prosecution of this case, claims 15 and 35 have been amended accordingly. Applicants submit that these claims are now in condition for allowance.

Claims 1-3, 7-13, 23-26, 32, 36-38, 40-49 and 54 have been rejected under 35 U.S.C. § 102(a) as allegedly being anticipated by Kawabe (EP 0998052A2). Claims 1, 2, 8-10, 36, 47-49 and 54 have been rejected under 35 U.S.C. § 102(a) as allegedly being anticipated by Lee (EP 1017183A2). Claims 1, 2, 29-31, 48 and 53 have been rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by Bottomley (US 6,442,154). Claims 1, 2, 33, 34 and 48 have been rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Kindred (US 5,710,784). Claims 4-6, 14, 16-22, 27, 28 and 50-52 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kawabe in view of Subramanian (US 6,459,883). Applicants respectfully submit that these rejections are moot.

In conventional wireless communication systems, receivers are typically designed with a data processor comprising a number of processing elements. Each processing element is generally dedicated to perform a specific function. A rake receiver is a prime example of this type of receiver. In a rake receiver, the signal is fed into a parallel arrangement of dedicated processing elements with each processing element configured to demodulate one multipath or

instance of the signal transmission. The result from each processing element is then combined to recover the signal. Kawabe is an example of a rake receiver operated in this fashion. See Applicants' originally filed specification, page 1, line 32 to page 2, line 18.

In one embodiment, Applicants disclose a novel and obvious approach to signal processing. Instead of using a dedicated processing element to perform each function, the data processor may be programmable so that one processing element (or a combination of processing elements) can perform any number of different functions depending on how the data processor is programmed. This embodiment, which is captured in new claims 55 and 56, is more flexible than the conventional rigid design using dedicated processing elements. By way of example, multiple signal instances or multipaths may be demodulated by retrieving different time offsets of the signal from memory and providing each time offset of the signal to the data processor. With this approach, the multiple instances of the signal transmission may be demodulated in parallel with separate processing elements, in serial with a common processing element (or a combination of common processing elements), or any combination of parallel and serial processing depending on a set of parameter values programmed into the data processor. Please refer to Applicants' originally filed specification, page 3, lines 7-18, and page 11, lines 24-36.

Applicants herein present amendments to the claims. Applicants submit that the amended claims recite subject matter which is neither disclosed nor suggested by the art of record. Apparatus claims 1 and 47, for example, each recite a data processor "operative to retrieve segments of the digitized samples from the first buffer at multiple time offsets, each of the retrieved segments comprising one of the signal instances" and "process each of the signal instances from the retrieved segments" (emphasis added). Similarly, method claims 48 and 54 each recite a process which includes "retrieving segments of the digitized samples from the first buffer at multiple time offsets, each of the retrieved segments comprising one of the signal instances" and "processing each of the signal instances from the retrieved segments" (emphasis added).

Kawabe does not teach or suggest the concept of processing multiple instances of the signal transmission by retrieving different time offsets of the signal from memory. Although Kawabe does teach the concept of time sharing a rake receiver between multiple signals, the data retrieved from memory includes all multipaths of a signal transmission, which are fed

simultaneously into a parallel arrangement of finger processors. Consequently, Kawabe is legally insufficient to support a rejection of the claims.

The remaining art of record also fails to teach or suggest Applicants' approach to signal processing. Subramanian discloses a specific finger architecture for a rake receiver, and Lee discloses a general-purpose processor implementation of a rake receiver. However, neither of these references discloses or suggests altering the conventional processing arrangement using parallel finger processors.

Bottomley and Kindred are even further removed from Applicants' approach. Bottomley is directed to a method of cancelling interference in a correlator and Kindred is directed to a Viterbi decoder.

Accordingly, Applicants respectfully request that the rejections against claims 1, 47, 48 and 54 be withdrawn.

Claims 2-39 and 42-44 are dependent from claim 1, and claims 49-53 are dependent from claim 48, and therefore, these claims include all the limitations of the claims from which they respectively depend. Accordingly, these claims are also allowable for the same reasons set forth hereinbefore, as well as the additional limitations recited. These additional limitations need not be addressed at this time because the limitations recited in claims 1 and 48 are sufficient to establish patentability.

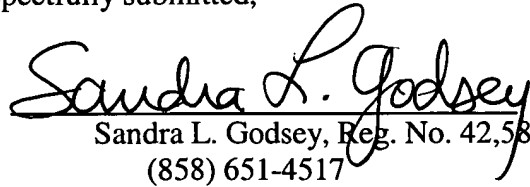
REQUEST FOR ALLOWANCE

In view of the foregoing, Applicants submit that all pending claims in the application are patentable. Accordingly, reconsideration and allowance of this application are earnestly solicited. Should any issues remain unresolved, the Examiner is encouraged to telephone the undersigned at the number provided below.

Respectfully submitted,

Dated: 10/06/2003

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